CLAIMS

What is claimed is:

1. A recombinant vector comprising, in operable linkage,
   a) a nucleotide sequence of or corresponding to at least a portion of a vector, which portion is capable of infecting and directing the expression of a coding sequence in target cells; and
   b) one or more coding sequences wherein at least one sequence encodes a peptide selected from the group consisting of: a peptide with Sag activity and a derivative of the peptide with Sag activity; and
   c) optionally at least one sequence encoding a peptide selected from the group consisting of: a therapeutic peptide and a non-therapeutic peptide.

2. A recombinant vector according to Claim 1, wherein said vector is a viral vector selected from the group consisting of: RNA virus vectors, DNA virus vectors and plasmid viral vectors.

3. A recombinant vector according to Claim 2 wherein the plasmid viral vector is a eucaryotic expression vector.

4. A recombinant vector according to Claim 2, wherein said virus vector is selected from the group consisting of: adenovirus vectors, adenovirus associated virus vectors, herpes virus vectors and retrovirus vectors.

5. A recombinant retroviral vector which is capable of undergoing promoter conversion and is replication-defective comprising, in operable linkage,
   a) a 5' long terminal repeat region comprising the structure U3-R-U5;
   b) one or more coding sequences wherein at least one sequence is selected from sequences encoding a peptide selected from the group consisting of:

a peptide with Sag activity, and a derivative of the peptide with Sag activity;

c) optionally, at least one sequence encoding a peptide selected from the group consisting of: β-galactosidase, neomycin, alcohol dehydrogenase, puromycin, hypoxanthine phosphoribosyl transferase (HPRT), hygromycin, secreted alkaline phosphatase, Herpes Simplex Virus thymidine kinase, cytosine deaminase, guanine phosphoribosyl transferase (gpt), cytochrome P 450, cell cycle regulatory proteins, tumor suppressor proteins, antiproliferation proteins, and cytokines; and

d) a 3' long terminal repeat region comprising a completely or partially deleted U3 region wherein said deleted U3 region is replaced by a polylinker sequence carrying at least one unique restriction site.

6. The recombinant vector of Claim 5 wherein one or more heterologous DNA fragments are inserted into said polylinker sequence, followed by the R and U5 region.

7. The recombinant vector according to Claim 6 wherein said heterologous DNA fragment comprises at least one non-coding sequence selected from regulatory elements or promoters which regulate the expression of at least one of the coding sequences of said recombinant vector.

8. Use of a recombinant vector according to Claim 1 for specific amplification of B- or T-cells.

9. A recombinant retroviral vector system comprising a retroviral vector according to Claim 5 and a packaging cell line harboring at least one retroviral or recombinant retroviral construct coding for proteins required for said retroviral vector to be packaged.

10. A retroviral provirus produced by the replication of a retroviral vector in the retroviral vector system according to Claim 9 comprising:

a) the U3 region which duplicated during the process of reverse transcription in the infected target cell and appears in the 5' long terminal repeat and in the 3' long terminal repeat of the resulting provirus, and

b) the U5 of the 5' long terminal repeat which duplicated during the process of reverse transcription in the infected target cell and appears in the 3' long terminal repeat and in the 5' long terminal repeat of the resulting provirus.

11. The retroviral provirus of Claim 10 wherein one or more heterologous DNA fragments are inserted into said polylinker sequence, followed by the R and U5 region.

12. mRNA transcribed of a retroviral provirus according to Claim 10.

13. A retroviral particle produced by transfecting a packaging cell line according to Claim 9 with a retroviral vector, and isolating said retroviral particle.

14. A method for introducing nucleotide sequences encoding peptides with Sag activity into a cell comprising:

a) transfecting a packaging cell line of a retroviral vector system according to Claim 9 with a retroviral vector, and

b) infecting the cell with said recombinant retroviruses produced by the packaging cell line.

15. The method of Claim 14 wherein the cell is selected from the group consisting of: an animal cell and a human cell.

16. A method for introducing nucleotide sequences encoding peptides with Sag activity into a mammal comprising:
    a) transfecting a packaging cell line of a retroviral vector system according to Claim 9 with a retroviral vector, and
    b) infecting the mammal with said recombinant retroviruses produced by the packaging cell line.

17. A host cell infected with a retroviral vector or a derivative thereof according to Claim 10.